

## REMARKS

Applicants respectfully contend, the Examiner has failed to provide a reason for the § 112 second paragraph rejection and that the Examiner has improperly refused to Examine claim 31 as described *infra*. Further, Applicants respectfully pointed out in the response of Aug 28, 2008 the Examiner had cited the wrong patent but the Examiner has failed to correct this in the present action. Thereby, Applicants respectfully contend the Examiners making the current action final is improper.

Applicants have amended claims 1, 8, 22 and 30 during prosecution of this patent application. Applicants are not conceding in this patent application that the subject matter encompassed by said amended claims are not patentable over the art cited by the Examiner, since the claim amendments and cancellations are only for facilitating expeditious prosecution of this patent application. Applicants respectfully reserve the right to pursue the subject matter encompassed by said amended and cancelled claims, and to pursue other claims, in one or more continuations and/or divisional patent applications.

The Examiner issued a restriction in the present office action.

The Examiner rejected claims 1, 8, 15, 22, 29 and 30 under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner rejected claims 1-30 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dangat et al., US 5,972,585 hereafter known as Dangat.

Applicants respectfully traverse the Restriction Requirement, § 112 and § 103 rejections with the following arguments.

## **Restriction and Election**

The Examiner stated, "Newly submitted claims 31-33 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Firstly, Applicant states that the new Claims 31-33 are supported by FIGs. 1A, 1B and IC and associated descriptions. The Examiner is unable to find support for Claims 31-33. Secondly, Claims 31-33 change the scope of the invention, the invention is now directed to disaggregating product quantities from feasible schedules, customer schedules and bills of materials to create two sets of pegging records. The initial scope of the invention was to match a "feasible component schedule" to "customer schedules" to generate component/asset demand pegging record. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 31-33 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03."

Applicants traverse the restriction requirement and holding of constructive election with the following arguments:

As to claim 31:

Applicants respectfully point out claim 31 depends from claim 1, and only further limits the "other assets" of claim 1. Further Applicants respectfully point out FIG. 1A clearly shows a "planned asset file 145" and is supported by accompanying paragraph [0033] and Table V. Applicants had previously informed the Examiner that support was

in FIG. 1A and accompanying text. Applicants respectfully contend the Examiner has improperly not examined claim 31 and request examination of claim 31.

As to claims 32 and 33:

First, Applicants respectfully point out “disaggregating” is taught in steps 115, 120, 125 and 160A of FIG. 1A and paragraphs [0031], [0032] and [0041].

Second, the Examiner has misstated the scope of Applicants invention.

Applicants claim 32 is **generate** demand pegging records from a feasible schedule and a customer schedule not to “**match** a feasible component schedule to customer schedules to generate component/asset demand pegging record.” Further, the Examiner is in error in stating that there are two sets of pegging records in claim 32.

Applicants believe the Examiner does not fully understand Applicants invention.

Applicants are not performing matching steps. Applicants paragraph [0043] clearly states “As the requisition map file 125 does not have entries for inventory requisitions to satisfy asset types of substitutions (“SUB”) and interplant shipments (“INTRECPT”), additional **processing beyond simple matching** is required to associate planned assets in coverage 2 file 160B with customer demands in requisition map file 125. This is accomplished as follows. Requisitions in coverage 2 file 160B for interplant shipments and substitutions must have corresponding planned assets in coverage 1 file 160A. Therefore, a mapping process is performed to find the records in coverage 2 file 160B corresponding to “SUB” and “INTRECPT” records in coverage 1 file 160A. This would associate planned assets in coverage 2 file 160B with customer demands in requisition map file 125 and generate new demand pegging records.”

The only other places in Applicants specification where matching is used is in the background paragraph [0006] where matching is indicated as not desirable: “In a first example, user inputted rules project asset production using the bill of material (BOM) and inter-plant transfers allowing projection to the final stocking point and then matching the projection to demand. However, accuracy of the system is entirely dependent upon the accuracy of the rules used and often results in mis-matches between projection and actual results” and Table II in defining Requisition type “There will be a matching PL entry for the assembly part number with the same identifier...”

Further, paragraph [0031] states “(3) calculate the Consumption Quantity field by disaggregating the Quantity field of planned inventory requisition file 115 against all demands for each P/N; and (4) calculate the Customer Demand Quantity field by disaggregating the Request Quantity field of customer demand file 120.” Paragraph [0041] states “(2) calculate the Quantity field of the new demand pegging output file 175 record(s) by disaggregating the corresponding Quantity field of coverage 1 file 160A against all demands for each P/N; (3) calculate the Start Quantity field by disaggregating corresponding Start Quantity field of coverage 1 file 160A against all demands for each P/N; and (4) calculate the Customer Demand Quantity field by disaggregating corresponding Customer Demand Quantity field of requisition map file 125.”

Third, The difference between claim 1 and claim 32 is the added limitation of how the first and second coverage files are generated, to wit “by disaggregating.” Compare claim 1 “generating from said feasible schedule, from said customer schedules and from bills of materials listing all components required for each of said products first and second coverage files.” to claim 32 “generating, **by disaggregating** product quantity information from said

feasible schedules, from said customer schedules and from bills of materials listing all components required for each of said products first and second coverage files.”

Compare claim 1, “generating from said from said first and second coverage files, a set of demand pegging records, said demand pegging records associating a quantity and an availability date of each component of each product with a required quantity of each of said products, each demand pegging record consistent with said feasible schedule” to claim 32 “generating, by disaggregating product quantity information from said from said first and second coverage files, a set of demand pegging records, said demand pegging records associating a quantity and an availability date of each component of each product with a required quantity of each of said products, each demand pegging record consistent with said feasible schedule.”

In summary, clearly, Applicants are not “matching” and clearly a claim to disaggregating does not change the scope of the invention as alleged by the Examiner. Applicants respectfully contend the arguments presented *supra* with respect to claim 32 are applicable to claim 33. Applicants respectfully request withdrawal of the restriction and that the Examiner provide an examination of claims 31 – 33.

### **35 U.S.C. § 112, Second Paragraph**

The Examiner rejected claims 1, 8, 15, 22, 29 and 30 under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner stated, "Claims 1, 8, 15, 22, 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants in paragraph [0022] discloses that "A feasible schedule is defined as a schedule for a supply chain wherein availability or shipment dates of component assets required to produce a final product and to support a shipment date of the final product..." Applicants further disclose "A demand pegging schedule is consistent with a feasible schedule by definition when quantities and dates of customer shipments and those dates in the production-scheduling run (PSR) are identical and the demand pegging file reflects the same sources of components as the PSR." Given a "feasible schedule for components", a "customer schedule" to generate "demand pegging records which are consistent with said feasible schedule" is being interpreted as validating a production-scheduling run (PSR).

(1) Applicants respectfully maintain that the Examiners rejection under 35 U.S.C. § 112, second paragraph, is improper. MPEP 706.03(d) clearly requires the Examiner to state how the claim does not comply with 35 U.S.C. § 112, second paragraph. The Examiner has quoted Applicants specification and given his interpretation of the claim but has not pointed out any specific deficiency in the claim. By not clearly indicating deficiencies in Applicants claim, the Examiner has not given Applicants an opportunity to refute the Examiners rejection or amend

claims to overcome the rejection. Applicants request the Examiner either withdrawn the 35 U.S.C. § 112, second paragraph rejections or respond with a proper rejection.

(2) Applicants respectfully contend that the Examiners interpretation of Applicants claims 1, 8, 15, 22, 29 and 30 “as validating a production-scheduling run” is incorrect. Applicants abstract clearly states “A method, a system for practicing the method and a storage device storing the method for identifying product assets in a supply chain used to satisfy customer demands.” Applicants paragraph [0022] states that “Demand pegging is defined as associating planned or actual assets with particular demands for those assets. Using claim 1 as an example: Applicants are generating a demand pegging records from a feasible schedule, a customer delivery schedule and a bill of materials and that the demand pegging records be consistent with the feasible schedule. Applicants respectfully point out the fact that Applicants claim the demand pegging records are consistent with the feasible schedule, has nothing to do with validating a production scheduling run. This is a limitation that the result of the process be consistent with one of the inputs to the process.

The Examiner appears to be improperly reading Applicants teaching in paragraph [0022] that “a demand pegging schedule is consistent with a feasible schedule by definition when quantities and dates of customer ships and quantities in a production scheduling run (PSR) are identical and the demand pegging file reflects the same sources as the PSR” into Applicants claims. This teaching simply defines one set of conditions involving a production scheduling run under which a demand pegging schedule is consistent with a feasible schedule.

Applicants would further point out, if the Examiner believes paragraph [0022] defines “validation of a production scheduling run” even though the word “validating” never appears in

Applicants specification, then there is no basis for a 35 U.S.C. 112 rejection because definitions in the specification are inherent in the claims.

**35 U.S.C. § 103(a)**

The Examiner rejected claims 1-30 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dangat et al., US 5,971,585 hereafter known as Dangat. Applicants note, the Examiner cited US 5,972,585 in his rejection but listed US 5,971,585 in the Notice of References Cited. Applicants believe US 5,971,585 is the correct citation. Applicants request this error be corrected.

**As to claims 1, 15 and 29:**

First, in his current rejection, the Examiner stated "Dangat in at least Fig. 2 discloses entering "demands with priorities" 201 production and distribution info (business policies, asset status, manufacturing specifications) and in at least Column 4, lines 55-67 discloses a computer implemented decision support tool generating a best-can-do (BCD) match between existing assets and demands across multiple manufacturing facilities to insure delivery commitments are met in a timely fashion. Dangat in at least Column 6, lines 5-9 further discloses converting the BCD solution into a "pegging" report format thereby providing a superior supply chain analysis.

Dangat in at least Column 6, lines 10-26 still further discloses assets include, but are not limited to, planned STARTS (starts at the lower level of the BOM), WIP (work in progress), inventory, purchases, and capacity. Demands include, but are not limited to, firm orders, forecasted orders and inventory buffer. The matching between existing assets and demands must take into account manufacturing specifications and business guidelines. Manufacturing specifications and process flows include, but are not limited to, build options, BOM (bill of material), yields, cycle times; receipt dates, capacity consumed, capacity available, substitutions

(allowable substitutions), binning or sorting and shipping times. Business guidelines include, but are not limited to, frozen zones, demand priorities, priority trade-offs, preferred suppliers, and inventory policy. Build options, BOM, yields, cycle times, capacity, allowable substitutions, binning, inventory policy and supplier preferences are date effective. While Dangat does not use the terminology "coverage files" to generate "demand pegging records" the end result is the same. Dangat in at least Column 7, lines 15-18 discloses generating a pegging or supply chain analysis report. Dangat in at least Column 8, lines 46-49 further discloses that the "pegging" or supply chain analysis component converts the solution into a pegging report that explains the solution and has a look and feel with which production planning people are familiar with.

Dangat in at least Column 10, lines 66-67 and Column 11, lines 1-11 discloses establishing low level code information to insure the heuristic implode step proceeds in the appropriate order. Dangat in at least Column 11, lines 40-57, Column 12, lines 30-53 and Column 12, lines 54-67 discloses additional uses of the low level code.

Dangat in at least Column 8, lines 46-49 further discloses that the "pegging" or supply chain analysis component converts the solution into a pegging report that explains the solution and has a look and feel with which production planning people are familiar. While Dangat does not specifically map one-to-one with Applicant's coverage files, the end product (demand pegging) is the same."

Applicants respectfully contend, the above does not constitute a proper rejection. The Examiner has failed to point out a single element of Applicants claim an instead has listed teachings selected from Dangat without pointing out the relationships of the recited elements to Applicants claims 1, 15 and 29. Further, the Examiners statement "While Dangat does not

specifically map one-to-one with Applicant's coverage files, the end product (demand pegging) is the same" is an admission by the Examiner that Applicants claims are not unpatentable in view of Dangat. Applicant's claims 1, 15 and 29 are method claims (not structure claims) so whether the end product is the same is not relevant and cannot serve as the basis for a rejection of a method claim. Thus, the Examiner has not established a *prima facie* case of obviousness.

Second, the Examiner in his response to arguments stated, "Applicants argue that "Dangat does teach creating a feasible schedule while Applicant's invention teaches receiving a feasible schedule." Applicant in Claim 1 clearly states "receiving feasible schedule of all components to be assembled into products; receiving customer schedules for delivery of said products; generating from said feasible schedule, from said customer schedules....to generate demand pegging record consistent with said feasible schedule." Applicants in paragraph [0022] discloses that "A feasible schedule is defined as a schedule for a supply chain wherein availability or shipment dates of component assets required to produce a final product and to support a shipment date of the final product..." Applicants further disclose "A demand pegging schedule is consistent with a feasible schedule by definition when quantities and dates of customer shipments and those dates in the production-scheduling run (PSR) are identical and the demand pegging file reflects the same sources of components as the PSR." Given that Applicant has a "feasible schedule for components", a "customer schedule" and is using those two schedules to generate "demand pegging records which are consistent with said feasible schedule", the "demand pegging records". How the "demand pegging records" generated by applicant's invention will be utilized is unknown. The Examiner and one of ordinary skill can only suspect that the "demand pegging records" will eventually be used to

determine if the organization has or will have a valid production-scheduling run (PSR).

Dangat creates "demand pegging records" and a feasible schedule (production schedule) which has considerable utility."

Applicants respectfully contend, the above does not constitute a proper rejection. The Examiner has listed teachings from Applicants specification and made the unsupported allegation that Dangat creates "demand pegging records" and a feasible schedule (production schedule), which has considerable utility. There is no showing by the Examiner that all the elements of Applicants claim are taught by Dangat and the Examiner names only two common elements. Further Applicants find the Examiners statement "The Examiner and one of ordinary skill can only suspect that the "demand pegging records" will eventually be used to determine if the organization has or will have a valid production-scheduling run (PSR)" is both conjecture unsupported by facts and based on the Examiners incorrect assumptions relating to validating production run scheduling as discussed *supra* with respect to the 35 U.S.C. 112 rejections. Thus, the Examiner has not established a *prima facie* case of obviousness.

Third, the Examiner in his response to arguments stated, "Applicants further argue with regard to Claims 1, 15 and 29 and their dependent claims "Dangat does (Examiner corrected the spelling of does) not teach or suggest generating from said feasible schedules, from said customer schedules and from bills of materials listing all components required for each of said products first and second coverage files, said first coverage file containing a list of assets to be used for product shipments and components to assembled into products to meet product shipment demands, said

second coverage file containing a list of all other assets." Respectfully the Examiner must disagree. Dangat in at least Column 7, lines 11-13 discloses an implode, "forward", or feasible plan component which generates the best can do match between assets and demands. Dangat in at least Fig. 2 discloses entering "demands with priorities" 201 production and distribution info (business policies, asset status, manufacturing specifications) and in Column 4, lines 55-59 discloses the object of the invention to be that of matching existing assets and demands across multiple manufacturing facilities. Clearly this matching of assets to demands is the same as the applicant's two coverage files (demands plus assets and other assets). Therefore, Claims 1, 15, and 29 and their dependent claims are properly rejected and remain rejected.

Applicants claim 1, for example, the first coverage file contains "a list of assets to be used for product shipments and components to assembled into products to meet product shipment demands" and the second coverage file contains "a list of all other assets." Applicants, with all due respect, believe the Examiners statement that "matching existing assets and demands" is the same as Applicants claim elements "first and second coverage files" makes no logical sense. (1) A process is not the same as the files the process acts on. (2) The Examiner fails to indicate how the citation translates into two separate and distinct files. (3) The Examiner has not defined what "existing assets" are so it is not possible to determine if any of the specific assets claimed in Applicants first coverage file are taught by Dangat. Thus, the Examiner has not established a *prima facie* case of obviousness.

Fourth, the Examiner in his response to arguments stated, "Applicants further argue

regarding Claims 1, 15 and 29 and their dependent claims "Dangat does not teach or suggest generating from said from said first and second coverage files, a set of demand pegging records." Respectfully the Examiner must disagree. While Dangat does not use the terminology "coverage files" to generate "demand pegging records" the end result is the same. Dangat in at least Column 7, lines 15-18 discloses generating a pegging or supply chain analysis report Dangat in at least Column 8, lines 46-49 further discloses that the "pegging" or supply chain analysis component converts the solution into a pegging report that explains the solution and has a look and feel with which production planning people are familiar with. While Dangat does not specifically map one-to-one with Applicant's coverage files, the end product (demand pegging) is the same."

The Examiners statement "While Dangat does not specifically map one-to-one with Applicant's coverage files, the end product (demand pegging) is the same" is an admission by the Examiner that Applicants claims are not unpatentable in view of Dangat. Applicant's claims 1, 15 and 29 are method claims (not structure claims) so whether the end product is the same is not relevant and cannot serve as the basis for a rejection of a method claim. Thus, the Examiner has not established a *prima facie* case of obviousness.

Fifth, Applicants respectfully contend that claims 1, 15 and 29, are not unpatentable over Dangat, because Dangat does not teach or suggest each and every feature of claims 1, 15 and 29. Applicants note, the Examiner has not addressed the issues of the pegging report of Dangat being generated by a method far different from that of Applicants claims 1, 15 and 19 raised in Applicants response of Aug. 28, 2008 and Applicants herein repeat and enlarge upon those arguments:

In a first example, Dangat does not teach or suggest “generating from said feasible schedules, from said customer schedules and from bills of materials listing all components required for each of said products first and second coverage files, said first coverage file containing a list of assets to be used for product shipments and components to assembled into products to meet product shipment demands, said second coverage file containing a list of all other assets.”

Applicants respectfully point out Dangat in col. 21, lines 63-66 states “The last step, step 4 of block 219 in FIG. 2, in the BCD tool is the conversion of the best can do matching solution or answer from block 218 into a pegging or a detailed supply chain analysis report in block 220.” Dangat generates his “pegging report” in step 219 from his “best can do solution” in step 218. Step 219 is illustrated in detail in FIG. 9 and described in and in col. 22, lines 23-24, to wit “Referring to the flow diagram of FIG. 9, the supply chain report is created in the following process.” Thus the pegging report is generated in step 219 of Dangat’s FIG. 2, while Dangat’s FIG. 9 and col. 22 lines 23 to 56 teach how the pegging report is generated.

Turning to FIG. 9, Applicants respectfully point out that the various files ASSET1, NEED1, NEWNEEDS, NEWASSET, NEWNEEDSTOT of Dangat are not the same as Applicants first and second coverage files as they contain different information. Dangat’s files record movements of assets between files irregardless of asset type while Applicants first and second coverage files record are defined in the claim to contain different types of assets and their quantities. Each of Dangat’s files contain all asset types, Applicants coverage files contain different asset types.

In a second example, Dangat does not teach or suggest “generating from said from said first and second coverage files, a set of demand pegging records.”

Applicants have pointed out *supra*, that Dangat does not teach coverage files as defined in Applicants claim, so the report of Dangat is generated by a different method than Applicants claim.

Based on the preceding arguments, Applicants respectfully maintain that claims 1, 15 and 29 are not unpatentable over Dangat, and that claims 1, 15 and 29 are in condition for allowance. Since claims 2-7 and 31 depend from claim 1 and claims 16-21 depend from claim 15, Applicants respectfully contend that claims 2-7, 16-21 and 31 are likewise in condition for allowance.

**Claims 5 and 19:**

As per claims 5 and 19, the Examiner stated, "Dangat in at least Column 8, lines 46-67 discloses that the BCD system has a "pegging" or supply chain analysis component which converts the solution into a pegging report that explains the solution and has a look and feel with which production planning people are familiar with. Dangat further discloses that BCD system has an MRP with special logic to (a) avoid over building binned parts. Clearly Dangat attempts to prevent overbuilding which results in unused binned components. Dangat in FIG. 2 and Column 9, lines 1-10 discloses the MRP component of BCD moving backwards through the production specification files and asset files (inventory and WIP or receipts) to calculate exploded, interplant transfer and substitution demand and total demand on every part number/location necessary to support demands with priorities block 201 of FIG. 2. Dangat uses inventory (excess binned components which resulted from "overbuilding", canceled customer orders, etc.), WIP and receipts to adjust the required STARTS and

"pegging" of the BCD solution similar to Applicant's generation of additional demand pegging records for unused binned components."

The Examiner further stated, "Claim 5 and 19 have limitations that have intended use limitations which does not differentiate the claimed method and apparatus over the prior art. It has been held that such claims are not a positive limitation, but only require the ability to perform. MPEP 2114 and *Ex parte Masham*, 2 USPQ2d 1647 (1987)."

First Applicants claims 5 and 19 requires "generating additional demand pegging records for unused binned components that are available in quantities in excess of those required for assembly of said products." Applicants respectfully point "generating" is an actual step, not an intended use. Further, "for" is as a proposition used to indicate the additional record is a record of unused binned components. It makes no linguistic sense to interpret as an adverb "for unused binned components" as an intended use because there is no action (word ending in ing) associated with the "for" as discussed in *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (The preamble of claim 1 recited that the apparatus was "for mixing flowing developer material" and the body of the claim recited "means for mixing ..., said mixing means being stationary and completely submerged in the developer material". The claim was rejected over a reference which taught all the structural limitations of the claim for the intended use of mixing flowing developer. However, the mixer was only partially submerged in the developer material. The Board held that the amount of submersion is immaterial to the structure of the mixer and thus the claim was properly rejected.)"

Second, The Examiners statement, "Dangat uses inventory (excess binned components which resulted from "overbuilding", canceled customer orders, etc.), WIP and receipts to adjust the required STARTS and "pegging" of the BCD solution **similar** to

Applicant's generation of additional demand pegging records for unused binned components" is an admission by the Examiner, that the elements of Dangat are not the same as the elements of Applicants claim. Thus, the Examiner has not established a *prima facie* case of obviousness.

Third, Applicants respectfully contend that claims 5 and 19 are not unpatentable over Dangat, because Dangat does not teach or suggest each and every feature of claims 5 and 19. For example Dangat does not teach or suggest "generating additional demand pegging records for unused binned components that are available in quantities in excess of those required for assembly of said products."

Applicants respectfully contend they find no explicit teaching in Dangat of "pegging records for unused binned components." Applicants respectfully point out that just because Dangat tries to avoid overbuilding parts, there is no requirement that "unused" binned parts be reported in Dangats pegging report. In fact, Dangats pegging report only lists the components actually used. See Dangat col. 22. line 5-6, which teaches " The report in block 220 shows the details of any customer order with respect to the part, and then the recommended shipment schedule, if any, as a result of the latest BCD run." Clearly, unused binned parts are not part of a customer order. Further, Applicants do not understand how using excess binned components to satisfy a customer demand is the same as reporting on unused binned components. Once they are used they are not unused.

Based on the preceding arguments, Applicants respectfully maintain that claims 5 and 19 are not unpatentable over Dangat, and that claims 5 and 19 are in condition for allowance.

**Claims 6 and 20:**

As per claims 6 and 20, the Examiner stated, “Dangat in at least FIG. 2, Column 8, lines 59-67 and Column 9, lines 1-10 discloses a STARTS file for parts that have no further bill of material (reverse low level code of 1, often wafer STARTS in semiconductor manufacturing). Dangat in at least FIG. 3, Column 9, lines 12-26 further discloses the MRP process of the BCD tool beginning by calculating the low level code for all part numbers and the classification of each part as binned or non-binned and when all parts have been processed, reports and files are consolidated in block 309. Dangat in at least Column 9, lines 26-38 further discloses that the MRP component of the BCD uses traditional logic well known to anyone practiced in the art of moving backwards through the BOM according to low level code. Dangat in at least FIG. 2, Column 10, lines 66-67 and Column 11, lines 1-11 discloses establishing low level code information to insure the heuristic implode step proceeds in the appropriate order. Dangat further discloses that for purposes of further discussion, defines a part number to have a reverse low level code of one if it has no components. Dangat in at least Column 11, lines 40-57, Column 12, lines 30-53 and Column 12, lines 54-67 discloses additional uses of the low level code.”

Applicants respectfully contend that claims 5 and 19 are not unpatentable over Dangat, because Dangat does not teach or suggest each and every feature of claims 5 and 19. For example Dangat does not teach or suggest “generating said demand pegging records in low-level-code sequence from a lowest low-level-code assigned to completed products to a highest low level code assigned to a starting component of a completed product.”

Applicants respectfully point out, in none of the citations given by the Examiner, is there any teaching of “generating said demand pegging records in low-level-code sequence.” All the teachings of low level code of Dangat are for generating a BCD not a pegging record. See Dangat FIG. 2 step 3 (215) which generates the BCD solution (218) in, not the pegging report in

FIG. 2 step 4 (219). In more detail:

(1) Relating to FIG. 9, Applicants respectfully point out that Dangat teaches low level code is used in generating the feasible plan and not in “generating a pegging report” as Applicants claims require. Nowhere in FIG. 9 or its description does Dangat teach or even mention low level code being used in generating a pegging report. Low level code is mentioned only relative to block 216 of Dangat FIG. 2 which process is detailed in various blocks of Dangat FIG. 6.

(2) In col. 10, lines 66-67, Dangat teaches “(d) establishes reverse low level code information to ensure the heuristic implode step proceeds in the appropriate order.”

(3) Dangat col. 11 lines 1-11 teaches “Reverse low level code information establishes the order in which parts must be processed by the heuristic implode step.”

(4) Dangat col. 11, lines 40-57 teaches “A third output from BCD MRP block 202 is ...for parts which have no further bill of material; that is having reverse low level code...”

(5) Dangat col. 12, lines 30-53 teach “The flow diagram of the heuristic implode solver 216 [(216) of FIG. 2] of the DCD tool is shown in FIG. 6 and works as follows. In block 601, the STARTs (manufacturing starts for part numbers with reverse low level code of one)...”

(6) Dangat col. 12, lines 54-67 teach “In implode processing loop 603, the solver implodes parts numbers... This step is executed for each reverse low level code in order.”

Based on the preceding arguments, Applicants respectfully maintain that claims 6 and 20 are not unpatentable over Dangat, and that claims 6 and 20 are in condition for allowance.

**Claims 8, 22 and 30:**

As per claims 8, 22 and 30, The Examiner rejection, because of its length is given in its entirety in the attached APPENDIX.

First Applicants respectfully contend that the Examiners rejection is improper because (1) the Examiner has failed to indicate which teachings listed in his rejection apply to which of Applicants claim and (2) the Examiner has failed to indicate what teachings listed in his rejection apply to which elements of Applicants claims. The Examiner has merely listed a group of teaching in Dangat that appear to Applicants to bear no relationship to the elements of Applicants claims 8-14, 22-28, and 30. The Examiner has unfairly shifted the burden of proof to Applicants. Applicants respectfully request the Examiner indicate what teachings in Dangat apply to each of the elements of Applicants claims 8-14, 22-28, and 30.

Second, Applicants respectfully contend that claims 8, 22 and 30 are not unpatentable over Dangat, because Dangat does not teach or suggest each and every feature of claims 8, 22 and 30.

In a first example, Dangat does not teach or suggest "(a) mapping a planned inventory requisition file comprising component availability schedules and a customer demand file comprising product shipment schedules for products assembled from components into a requisition map file associating said component availability schedules and said product shipment schedules and including quantities of each component to be used for each product, each component and product having a low-level-code indicating a sequence in which said components are assembled into said products and each product and component having a unique part-number."

In the Examines response to arguments, the Examiner stated, "Steps (a)-(h) of Claims 8, 22 and 30 are directed to mapping all demand and production capability to generate "demand pegging records." Dangat in at least Column 4, lines 55-67 discloses a computer

implemented decision support tool generating a best-can-do (BCD) match between existing assets and demands across multiple manufacturing facilities to insure delivery commitments are met in a timely fashion. Dangat in at least Column 6, lines 5-9 further discloses converting the BCD solution into a "pegging" report format thereby providing a superior supply chain analysis.

Dangat in at least FIG. 3, Column 9, lines 12-26 further discloses the MRP process of the BCD tool begins by calculating the low level code for all part numbers and the classification of each part as binned or non-binned and when all parts have been processed reports and files are consolidated in block 309. Dangat in at least Column 9, lines 26-38 further discloses that the MRP component of the BCD uses traditional logic well known to anyone practiced in the art of moving backwards through the BOM according to low level code. Clearly to one of ordinary skill, demands encompasses customer demands with priorities as shown in Fig. 2 and would include components, schedules (deliver and availability), part numbers, low-level-codes for block 202 to function with assets as intended to produce a pegging report."

Applicants respectfully contend that all the Examiner is arguing is Dangat at some point, ends up with a demand pegging record, but has not addressed the specific files and steps required by Applicants claims. The Examiner is summarizing steps (a)-(h) of Applicants claims as "directed to mapping all demand and production capability to generate demand pegging records" and then finding Dangat generates a demand pegging record while ignoring the actual steps (a) – (h) of Applicants claim as if he has somehow relieved himself of the requirements of MPEP 706.02. Since the Examiner did not point out each element of

Applicants claim that is found in Dangat or would be obvious to add to Dangat, the Examiner has not established a *prima facie* case of obviousness.

In a second example, Dangat does not teach or suggest “(b) selecting all records from said requisition map file of components or products having low-level codes equal to a current low-level-code.”

In the Examines response to arguments, the Examiner stated, “In steps (a)-(h) of Claims 8, 22 and 30 are directed to mapping all demand and production capability to generate “demand pegging records.” Dangat in at least Fig. 3 and the associated text discloses an iterative process for “calculating the low-level-codes” for all part numbers”

Applicants respectfully point out “calculating low level codes” for part numbers is not the same as “selecting all records from said requisition map file.” The Examiner has not pointed to a step in Dangat where part numbers are “selected from a requisition map file” as required by Applicants claim.

Applicants respectfully contend that all the Examiner is arguing is Dangat at some point, ends up with a low level codes for all part numbers, but has not addressed the specific files and steps required by Applicants claims. The Examiner is summarizing steps (a)-(h) of Applicants claims as “directed to mapping all demand and production capability to generate demand pegging records” and then finding Dangat generates a demand pegging record while ignoring the actual steps (a) – (h) of Applicants claim as if he has somehow relieved himself of the requirements of MPEP 706.02. Since the Examiner did not point out each element of Applicants claim that is found in Dangat or would be obvious to add to Dangat, the Examiner has not established a *prima facie* case of obviousness.

In a third example, Dangat does not teach or suggest “(f) mapping said coverage file and records of corresponding part numbers from said requisition map file into a demand pegging output file comprising demand pegging output records, said demand pegging records associating a quantity and an availability date of each component required to produce a required quantity of each of said products, each demand pegging record consistent with said feasible schedule.”

In the Examiner's response to arguments, the Examiner stated, “Steps (a)-(h) of Claims 8, 22 and 30 are directed to mapping all demand and production capability to generate “demand pegging records.” Dangat in at least Column 6, lines 5-9 discloses that the best-can-do (BCD) solution is converted into a “pegging” report format. Dangat in at least Column 6, lines 42-50 further discloses that BCD is a match between existing assets and demands across multiple manufacturing facilities. Dangat in at least Column 8, lines 46-49 further discloses that the “pegging” or supply chain analysis component converts the solution into a pegging report that explains the solution and has a look and feel with which production planning people are familiar.”

Applicants respectfully point out the Examiner has not shown in Dangat a step of “mapping said coverage file and records of corresponding part numbers from said requisition map file into a demand pegging output file.”

Applicants respectfully contend that all the Examiner is arguing is Dangat at some point, ends up with a demand pegging record and there is a match between existing assets and demands, but has not addressed the specific files and steps required by Applicants claims. The Examiner is summarizing steps (a)-(h) of Applicants claims as “directed to mapping all demand and production capability to generate demand pegging records” and then finding Dangat generates a demand pegging record while ignoring the actual steps (a) – (h)

of Applicants claim as if he has somehow relieved himself of the requirements of MPEP 706.02. Since the Examiner did not point out each element of Applicants claim that is found in Dangat or would be obvious to add to Dangat, the Examiner has not established a *prima facie* case of obviousness.

In a fourth example, Dangat does not teach or suggest "(g) generating additional records in said requisition mapping file for components required to fabricate products whose records were mapped into said demand pegging output file in step (f)."

Applicants respectfully point out the Examiner has not shown in Dangat a step of "generating additional records in said requisition mapping file."

In the Examines response to arguments, the Examiner stated, "Steps (a)-(h) of Claims 8, 22 and 30 are directed to mapping all demand and production capability to generate "demand pegging records." Dangat in at least Column 6, lines 5-9 discloses that the best-can-do (BCD) solution is converted into a "pegging" report format. Dangat in at least Column 6, lines 42-50 further discloses that BCD is a match between existing assets and demands across multiple manufacturing facilities. Clearly a demand record must be created for all components required to fabricate products, otherwise the demand record would not accurately map demands to assets."

Applicants respectfully point out, that a specific problem with Dangat is that because he is generating a BCD, there are missing records that would be required by the perfect solution. One of the reasons for this problem in Dangat is because he has no capability for "additional records" to correct this problem. Further, because of the method of Dangat, he can not add these additional records.

Applicants respectfully contend that all the Examiner is arguing is Dangat at some point, ends up with a demand pegging record and there is a match between existing assets and demands, but has not addressed the specific files and steps required by Applicants claims. The Examiner is summarizing steps (a)-(h) of Applicants claims as “directed to mapping all demand and production capability to generate demand pegging records” and then finding Dangat generates a demand pegging record while ignoring the actual steps (a) – (h) of Applicants claim as if he has somehow relieved himself of the requirements of MPEP 706.02. Since the Examiner did not point out each element of Applicants claim that is found in Dangat or would be obvious to add to Dangat, the Examiner has not established a *prima facie* case of obviousness.

Third, the Examiners allegation in the previous office action was that “it would have been obvious, to one of ordinary skill that Dangat’s BCD decision support tool with scheduling component (as modified in Claims 1, 15 and 29 above) uses MRP, Low Level Code, Pegging, Delayed Pegging, Inventory, Asset, Schedules, Substitute Components, etc. to match assets with demands to create a feasible schedule for a semiconductor manufacturing facility.”

(1) Applicants respectfully point out that this sentence makes no sense and is not proper English and could not be understood by anyone of ordinary skill in the art. It is unclear what “uses” what. It is unclear what would be obvious. It is unclear for what MRP, Low Level Code, Pegging, Delayed Pegging, Inventory, Asset, Schedules, Substitute Components are recited or even where they are recited from.

(2) Applicants respectfully point out that this was based on the Examiners assertion that “Dangat lack the explicit teaching of a feasible schedule.” Applicants maintain that the

Examiners response is moot because the Examiner has now stated , in rejecting claims 1, 15 and 29 in the present action, that “Dangat in at least Column 7, lines 15-18 discloses generating a pegging or supply chain analysis report.” Further, in his response to arguments, the Examiner stated “Dangat creates ‘demand pegging records” and a feasible’ schedule (production schedule) which has considerable utility. Thus the Examiner has no longer a valid argument that it would be obvious to whatever he intended to do.

(3) Applicants fail to understand how the motivation “to create a feasible schedule for a semiconductor manufacturing facility” is applicable, when claims 8, 22, and 30 do not claim “creating a feasible schedule.”

(4) In the Examines response to arguments, the Examiner stated, “The limitation is being read in-light of Applicant's specification which discloses "A demand pegging schedule is consistent with a feasible schedule by definition when quantities and dates of customer shipments and those dates ill the production-scheduling run (PSR) are identical and the demand pegging file reflects the same sources of components as the PSR." Given that Applicant has a "feasible schedule for components", a "customer schedule" and is using those two schedules to generate "demand pegging records which are consistent with said feasible schedule", the "demand pegging records" will eventually be used to determine if the organization will have a valid production-scheduling run (PSR) where assets and the feasible schedule of components are not over committed.”

Applicants respectfully contend that the Examiners statement “the ‘demand pegging records’ will eventually be used to determine if the organization will have a valid production-scheduling run (PSR) where assets and the feasible schedule of components are not over committed” is mere speculation on the part of the Examiner based on an improper reading of

Applicants paragraph [0022] as explained *supra* in respect to the Examiner 35 U.S.C. 112 rejection. Further, the Examiner is improperly reading limitations of the specification into Applicants claim.

Based on the preceding arguments, Applicants respectfully maintain that claims 8, 22 and 30 are not unpatentable over Dangat, and that claims 8, 22 and 29 are in condition for allowance. Since claims 9-14 depend from claim 8 and claims 23-28 depend from claim 22, Applicants respectfully contend that claims 9-14 and 23-28 are likewise in condition for allowance.

## CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account 09-0456 (IBM).

Respectfully submitted,  
FOR: Orzell et al.

BY:

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## APPENDIX

In rejecting claims 8-14, 22-28 and 30 the Examiner stated, "As per claims 8-14, 22-28 and 30, Dangat in at least Column 4, lines 55-67 discloses a computer implemented decision support tool generating a best-can-do (BCD) match between existing assets and demands across multiple manufacturing facilities to insure delivery commitments are met in a timely fashion. Dangat in at least Column 6, lines 5-9 further discloses converting the BCD solution into a "pegging" report format thereby providing a superior supply chain analysis.

Dangat in at least FIG. 3, Column 9, lines 12-26 further discloses the MRP process of the BCD tool beginning by calculating the low level code for all part numbers and the classification of each part as binned or non-binned and when all parts have been processed reports and files are consolidated in block 309. Dangat in at least Column 9, lines 26-38 further discloses that the MRP component of the BCD uses traditional logic well known to anyone practiced in the art of moving backwards through the BOM according to low-level code.

Dangat in at least FIG. 2, Column 10, lines 66-67 and Column 11, lines 1-11 discloses establishing low level code information to insure the heuristic implode step proceeds in the appropriate order. Dangat further discloses that for purposes of further discussion, defines a part number to have a reverse low-level code of one if it has no components. Dangat in at least Column 11, lines 40-57, Column 12, lines 30-53 and Column 12, lines 54-67 discloses additional uses of the low level code.

Dangat in at least Column 8, lines 46-67 discloses that the BCD system has a "pegging" or supply chain analysis component which converts the solution into a pegging report that explains the solution and has a look and feel with which production planning

people are familiar with. Dangat further discloses that BCD system has an MRP with special logic to (a) avoid over building binned parts. Dangat in FIG. 2 and Column 9, lines 1-10 discloses the MRP component of BCD moving backwards through the production specification files and asset files (inventory and WIP or receipts) to calculate exploded, interplant transfer and substitution demand and total demand on every part number/location necessary to support demands with priorities block 201 of FIG. 2.

Dangat in at least Column 1, lines 66-67 and Column 2, lines 1-16 further discloses a second tier dealing with tactical scheduling which addresses the problems the company faces in the next week to six months. Items such as yields, cycle times, binning percentages, permissible substitutions and the scheduling of starts or releases into manufacturing, delivery dates for firm orders, order/release plans and reschedules are estimated, generated and planned.

Dangat in at least Column 11, lines 40-57 further discloses the output of the BCD MRP block establishing a list of required starts (part identification, quantity, start date, and priority) for parts which have no further bill of material; that is having reverse low level code of one in block 208 and modifying or adjusting the start date for any one of or all the items in the STARTS file. Dangat in at least FIG. 6 and Column 12, lines 30-53 further discloses adjusting (delaying or accelerating) a start to deal with capacity issues, demand class and date.

Dangat in at least Column 6, lines 10-26 still further discloses assets include, but are not limited to, planned STARTS (starts at the lower level of the BOM), WIP (work in progress), inventory, purchases, and capacity. Demands include, but are not limited to, firm orders, forecasted orders and inventory buffer. The matching between existing assets and

demands must take into account manufacturing specifications and business guidelines. Manufacturing specifications and process flows include, but are not limited to, build options, BOM (bill of material), yields, cycle times, receipt dates, capacity consumed, capacity available, substitutions (allowable substitutions), binning or sorting and shipping times. Business guidelines include, but are not limited to, frozen zones, demand priorities, priority trade-offs, preferred suppliers, and inventory policy. Build options, BOM, yields, cycle times, capacity, allowable substitutions, binning, inventory policy and supplier preferences are date effective.

Dangat in at least Column 22, lines 57-60 discloses that the BCD tool allows the user to dynamically personalize the BCD to best meet the needs of the business situation.

Dangat in at least Column 22, lines 61-67, FIG. 10 and Column 23, lines 1-3 discloses a scenario where the user exercises all three major stages (backwards (explode), adjustment, and forward (implode) of the BCD tool), but only uses the heuristic implode component for situations where a set of products with simple product structures and either many parts or many days in the planning horizon.

Dangat in at least FIG. 11 and Column 23, lines 4-10 further discloses a second scenario commonly used for runs on very large data sets, where only explode and implode are used and the user chooses not to make any adjustments to the STARTS file or the receipts file.

Dangat in at least FIG. 12 and Column 23, lines 11-18 further discloses a third scenario used when the production planning group is attempting to determine their START plan for a time unit (month, three months, etc.) where the user runs the explode and creates and saved a required starts and receipts due date files and save. The user wished to run a set

of 'what-if' scenarios with different adjusted STARTS and receipts.

Dangat in at least FIG. 13 and Column 23, lines 19-27 further discloses a fourth scenario used when there are a set of products with complex product structures (multiple processes and substitution) and either a reasonable number of parts and/or time buckets where the user exercises all three major stages (backwards (explode), adjustment, and forward (implode) of the BCD tool), but only uses the LP implode component and not the heuristic implode component or the adjust capacity step.

Dangat in at least FIG. 14 and Column 23, lines 28-32 further discloses a fifth scenario where the user executes the LP implode engine in stand alone mode. The LP engine is capable of creating a feasible solution without a STARTS file and using the original receipts and capacity files in the input block. Therefore, it would have been obvious, to one of ordinary skill that Dangat's BCD decision support tool with scheduling component (as modified in Claims 1, 15 and 29 above) uses MRP, Low Level Code, Pegging, Delayed Pegging, Inventory, Asset, Schedules, Substitute Components, etc. to match assets with demands to create a feasible schedule for a semiconductor manufacturing facility.